

CLAIMS:

1. A method for testing a cascode circuit comprising an electronic element to be protected from high voltage and a cascode element connected to said electronic element, the method comprising the steps of

- arranging a test node between said electronic element and said cascode element,
- 5 – allocating a switching element to said test node and connecting said switching element to said test node, said switching element having a plurality of switching states and being constituted such that its switching state is changed when the voltage at said test node exceeds or falls below a given voltage limit,
- activating said cascode element, and
- 10 – detecting the switching state of said switching element.

2. The method according to claim 1, wherein said voltage limit is either chosen to be an upper voltage limit applicable to said electronic element if said electronic element is connected to a ground-voltage line, or is chosen to be a supply voltage minus an upper
15 voltage limit applicable to said electronic element if said electronic element is connected to a supply-voltage line.

3. The method according to any of the preceding claims, wherein said switching element is chosen to comprise a test transistor, preferably an MOS field effect transistor,
20 a gate of said test transistor is connected to said test node, a source of said test transistor is connected to a first test point and a drain of said test transistor is connected to a second test point,
a first voltage is applied to said first test point and a second, different voltage is applied to said second test point, and
25 a current flow is detected between said first and said second test point.

4. The method according to claim 3, wherein said detection of a current flow is used for testing a correct or an incorrect working of said cascode circuit, or for determining a voltage on said test node.

5. The method according to claim 3 or 4, wherein said first voltage is either chosen to be an upper voltage limit applicable to said electronic element if said electronic element is connected to a ground-voltage line, or is chosen to be a supply voltage minus an upper voltage limit applicable to said electronic element if said electronic element is connected to a supply-voltage line, and, in both cases, said second voltage is chosen to slightly differ, e.g., by 1 to 15 %, from said first voltage.

6. The method according to any of the preceding claims, wherein said electronic element comprises an MOS field effect transistor of a first channel conduction type, and said test transistor is chosen to be an MOS field effect transistor of the same first channel conduction type.

7. The method according to any of the preceding claims, wherein said cascode circuit comprises a plurality of electronic elements to be protected from high voltage and a plurality of cascode elements, each cascode element being connected to an electronic element, and wherein a group of switching elements is connected by at least one test line so that the electric signal on said at least one test line indicates whether the switching state of at least one switching element from said group of switching elements is in a changed switching state.

8. The method according to any of claims 3-5 and claim 7, wherein all sources of said group of test transistors are connected to said first test point and all drains of said group of test transistors are connected to said second test point.

9. The method according to claims 7 or 8, wherein each cascode element is consecutively activated.

10. A cascode circuit comprising

- an electronic element to be protected from high voltage,
- a cascode element connected to said electronic element,
- a test node arranged between said electronic element and said cascode element,
- a switching element allocated to said test node and connected to said test node, said switching element having a plurality of switching states and being constituted such that

its switching state is changed when the voltage at said test node exceeds or falls below a given voltage limit, and

- means for detecting the switching state of said switching element.

5 11. The cascode circuit according to claim 10, wherein
 said switching element comprises a test transistor, preferably a MOS field
 effect transistor, a gate of said test transistor being connected to said test node, a source of
 said test transistor being connected to a first test point and a drain of said test transistor being
 connected to a second test point,

10 the cascode circuit further comprises means for applying a first voltage to said
 first test point and means for applying a second, different voltage to said second test point,
 and

 means for detecting a current flow between said first and said second test
point.

15

12. The cascode circuit according to claims 10 or 11, wherein said electronic
 element comprises an MOS field effect transistor of a first channel conduction type, and said
 test transistor is an MOS field effect transistor of the same first channel conduction type.

20 13. The cascode circuit according to any of the claims 10-12, wherein said
 cascode circuit comprises a plurality of electronic elements to be protected from high voltage
 and a plurality of cascode elements, each cascode element being connected to an electronic
 element, and wherein a group of switching elements is connected by at least one test line so
 that the electric signal on said at least one test line indicates whether the switching state of at
25 least one switching element from said group of switching elements is in a changed switching
 state.

14. The cascode circuit according to the claims 11 and 13, wherein all sources of
 said group of test transistors are connected to said first test point and all drains of said group
30 of test transistors are connected to said second test point.